

What is claimed:

1. A method for dechucking a substrate comprising the steps of:  
projecting a first set of lift pins a first distance above a surface of a substrate support; and  
projecting a second set of lift pins a second distance above the surface of the substrate support that is less than the first distance projected by the first set of lift pins.
2. The method of claim 1, wherein the second set of lifts pins projects at a position radially inward of the first set of lift pins.
3. The method of claim 1, wherein the difference in the distances projected by the first and second sets of lift pins is at least 2mm.
4. The method of claim 1 further comprising the steps of:  
contacting a substrate with the first set of lift pins and causing the substrate to bow;  
lifting the substrate to a spaced-apart relation relative to the substrate support substantially without the second set of lift pins contacting the substrate.
5. The method of claim 4, wherein the substrate is caused to bow a distance that is less than the difference in projection distances between the first and second sets of lift pins.
6. The method of claim 1 further comprising the steps of:  
causing the substrate to form a bowed region between a plurality of the first set of lift pins by contacting a substrate with the first set of lift pins;  
contacting the substrate in the bowed region with the second set of lift pins.

7. The method of claim 6, wherein the substrate is caused to bow a distance that is about equal to the difference in projection distances between the first and second sets of lift pins.

8. The method of claim 6, further comprising the step of:

overcoming a residual attraction between the substrate and the substrate support proximate to the bowed region of the substrate;

breaking contact between the substrate and the second set of lift pins;  
and

supporting the substrate upon the first set of lift pins in a spaced apart relation to the substrate support.

9. The method of claim 1 further comprising the steps of:

actuating a lift plate to contact the first set of lift pins before contacting the second set of lift pins.

10. The method of claim 9 further comprising the steps of:

contacting the first set of lift pins with a raised rim of the lift plate that projects from a center portion of the lift plate; and

contacting the second set of lift pins with the center portion.

11. The method of claim 1, further comprising:

lowering the substrate support so that the first and second sets of lift pins are contacted by a lift plate.

12. A method for dechucking a substrate comprising the steps of:

moving a lift plate towards a substrate support to displace a first set of lift pins and a second set of lift pins;

extending the first set of lift pins with the lift plate a first distance above a support surface of the substrate support; and

extending the second set of lift pins with the lift plate a second distance above the support surface of the substrate support, wherein the second distance is less than the first distance.

13. The method of claim 12, wherein the second set of lift pins projects at a position radially inward of the first set of lift pins.

14. The method of claim 12 further comprising the steps of:

contacting the substrate with the first set of lift pins and causing the substrate to bow;

lifting the substrate to a spaced-apart relation relative to the substrate support substantially without the second set of lift pins contacting the substrate.

15. The method of claim 14, wherein the substrate is caused to bow a distance that is less than the difference in projection distances between the first and second sets of lift pins.

16. The method of claim 12 further comprising the steps of:

causing the substrate to form a bowed region between a plurality of the first set of lift pins by contacting a substrate with the first set of lift pins;

contacting the substrate in the bowed region with the second set of lift pins.

17. The method of claim 16, wherein the substrate is caused to bow a distance that is about equal to the difference in projection distances between the first and second sets of lift pins.

18. The method of claim 16, further comprising the step of:

overcoming a residual attraction between the substrate and the substrate support proximate to the bowed region of the substrate;

breaking contact between the substrate and the second set of lift pins;  
and

supporting the substrate upon the first set of lift pins in a spaced apart relation to the substrate support.

19. The method of claim 12 further comprising the steps of:  
actuating a lift plate to contact the first set of lift pins before contacting the second set of lift pins.
20. The method of claim 19 further comprising the steps of:  
contacting the first set of lift pins with a raised rim of the lift plate that projects from a center portion of the lift plate; and  
contacting the second set of lift pins with the center portion.